

Chapter 7 - Information and Education Strategies

Vision for Information and Education for the Kawkawlin Watershed

The Information & Education (I&E) strategy targets specific audiences to educate them on how their everyday actions and behavior can have potential impacts on water quality in the Kawkawlin Watershed. Various media will be used to deliver these messages, such as newsletters, demonstrations, presentations, public meetings, and volunteer participation opportunities. There are resources available from past education efforts that can be “dusted off” and used for the efforts on the Kawkawlin River. Also, it is time to look at environmental education resources and groups in our area to determine which would be a match for this project and be able to obtain funding to assist in this I&E effort.

Goals and Objectives of Information and Education Plan

The I&E approach of this chapter provides an overview of the public participation process that will be utilized to educate the residents of the watershed and Bay County. It is also hoped that those people residing in the Greater Saginaw Bay watershed will participate in the programs as they are offered and glean information to become informed stewards of the watershed and region. A major objective is to promote pollution prevention and inform the public on the actions they can implement to protect water quality. Also this section will include the education of specific groups about the goals and progress of watershed management projects being implemented, familiarizing stakeholders about the sources of NPS pollution and associated water quality problems. Finally, it will involve educating municipalities, focus groups, and educational institutions about the negative impacts of non point source pollution within the Kawkawlin Watershed.

The I&E approach has been developed into a dynamic text which provides a framework for educational opportunities and actions needed to successfully maintain and improve water quality in the Kawkawlin Watershed. **Table 7.1** presents the I&E Strategy.

The I&E Plan has the following objectives:

- Increase public knowledge regarding the health of the Kawkawlin Watershed.
- Educate stakeholders on how to reduce pollutants in storm water runoff from urban and rural sites.
- Develop a program for public comment and participation in implementing the WMP.
- Facilitate cooperative efforts among established agricultural groups and property owner associations to address knowledge gaps in the watershed.
- Initiate partnerships among stakeholders by sharing ideas and resources.
- Facilitate cooperative activities which will increase public awareness of watershed management and impact land use policies.

Other objectives that need to be developed to improve coordination of watershed planning efforts in the Kawkawlin Watershed during this I&E initiative are as follows:

- Educate local and county government on how the site review process for development can help improve the Watershed.
- Educate local and county government on how to implement action items from the Watershed Management Plan into their local or county master plan and recreational planning documents.
- Coordinate education with local NPDES Public Education Plans (PEPs) and activities that have similar goals and objectives.

Table 7.1 - Information and Education Strategy

Objective 1 <i>Increase public knowledge regarding the health of the Kawkawlin Watershed.</i>			
Message <p>Water quality in lakes and streams is greatly affected by your everyday activities. Your ability to change simple activities can protect your Watershed.</p>			
Target Audience	Component	Communication Method	Potential Partners
All Audiences	Understanding	Use of a logo in communications about the I&E project	BCDC, local businesses & DDAs, KRWPOA
		Watershed signs at agricultural demonstration sites	BCDC, farmers
		Develop brochure, Articles in local newspapers,	Bay City Times, Saginaw News, Midland Daily News, MLive.com
	Education	Displays for fairs, events, and meetings	County fair boards, community development organizations
		Public meetings	Townships, Counties, Cities, local DDA's
		Watershed tours of problem Sites. Children's activities like crosswords, mazes, word scrambles	MSUE, BCDC, ag operations, waste water treatment plant, Education institutions shoreline businesses
Agricultural Producers	Education	Articles in MSUE Newsletters, Farm Bureau Newsletters,	MSUE, Farm Bureau, MDA
		Presentations at meetings to present new agriculture BMPs	MSUE, Farm Bureau, MDA
	Action Item	Displays at Conservation District Open House, Displays at County Fairs in Bay, Saginaw, Midland and Gladwin	Conservation District Board, BCDC, BCRC,
All Residents	Education	Community Surveys	MSUE, BCDC, Educational institutions business and marketing classes
		Presentation on on-site treatment systems and well maintenance	Bay County Health Department
	Action Item	Volunteer water quality monitoring	DNRE, Michigan Lakes & Streams CLMP program

Table 7.1 - Information and Education Strategy (cont.)

Target Audience	Component	Communication Method	Potential Partners
Businesses	Action Item	Storm drain marking (not stenciling), presentations	Drain Commission, Road Commission, Lions clubs, Rotary clubs, Townships, Cities and Counties
County, Township, and City Officials	Education	Direct mailings, presentations at county, township, and city meetings	BCDC, BCRC, Townships, Counties and Cities
Students	Education	Displays at Conservation District Open House	Conservation District Board
	Action Item	Involve FFA groups in I&E project	Local Schools, community colleges, and universities
		Implement a Watershed Education contest for the Kawkawlin Watershed web presence,	BCDC, KRWPOA, Bay Arenac ISD
		Have Students Develop a Facebook Page for the Kawkawlin Watershed	BCDC, KRWPOA
		Storm drain marking (not stenciling)	BCDC, BASWA
		Volunteer water monitoring	Bay Sail, Sierra club, Michigan Lakes & Streams Associations CLMP program

Identification of Target Audiences

The target audiences include individuals or groups known to impact or be impacted by the project and whose support is needed to achieve the goals of the project. In the Watershed, the target audiences were identified in Table 7.1 as:

- Local and County government officials, staff, and managers
- Residents and visitors of the watershed.
- Community organizations, groups, and clubs, such as Conservation Clubs, Kiwanis, Optimists, Rotary, Pheasants Forever, Ruffed Grouse Society, Ducks Unlimited, Saginaw Bay Walleye, and other fishing groups.
- Businesses (industrial, commercial, and agricultural).
- General Construction contractors, Home Contractors, Landscape and excavation contractors, Home Builders Associations in each county.
- Local School Districts and Community College and University Students and their internal groups such as science clubs, Michigan Water Environment Association student memberships, Stream Leaders Memberships, Youth Groups
- Agricultural producers, associations, and organizations such as Bean, Corn, Sugar Beet growers, Farm Bureau and others as identified or brought forth by NRCS.
- State and Federal representatives, senators and their staff.
- Realtors and real estate brokers
- Churches that want membership involved in environmental activities such as stream clean ups or “Adopt a Drain” or “Adopt a Road” efforts.
- Turf care managers.

A baseline of information about the Kawkawlin Watershed project will be provided to a range of the target groups. Groups will be encouraged to participate throughout the project, and to help update the plan in the future.

Developing the Right Message

In any education initiative it is important to gain and hold the attention of the targeted audiences. It is crucial that a thematic hook be developed which will “brand” the education and information being put forth. The brand must emit energy and capture the imagination of those wanting to be involved in this project. The whole start of this project may focus on getting watershed wide attention and “buy in”. The education may start with a contest with local schools, community college and university business and marketing students developing the thematic hook to base the I&E on. For example, the Bay and Saginaw Area Storm Water Authorities have their “Do Your Bit for the Bay” education campaign for Saginaw Bay. Or, it could be something like the “Kawkawlin is Calling for Help”

The communication intended for specific groups range from broad spectrum to specific targets, depending on the demeanor of the group. Each target audience must be communicated a clear understanding of the issues being addressed by the project and how the project affects them before any behavioral changes are to take place. The known pollutants in the Watershed are pathogens, sediment, nutrients, and altered hydrology. The messages being develop by the I&E Committee will use the following messages:

- Water quality in lakes and streams is greatly affected by your everyday activities. Your ability to change simple activities can protect your Watershed.
- Your activities impact water quality. Sediment, nutrients, pathogens, pharmaceuticals, erosion, fertilizer, septic systems, urban storm water runoff, and streambank erosion are impairing or threatening water quality.
- We all live in a watershed. Your actions affect the health of your Watershed now and in the future. Financial and technical tools are available. A healthy community is good for business. Protecting your Watershed also protects your economic returns.
- Runoff from manure, fertilizers, and pesticide applications on farms, lawns, gardens, parks, cemeteries and golf courses pollute surface waters.
- Pollutants from failing on site treatment systems and yard waste runoff contaminate your rivers, streams, and drains.

Selecting Delivery Mechanisms and Activities

It will take a variety of media usage and activities in differing formats to effectively communicate the key objectives and messages to the diverse groups that will be targeted in this education and information immersion episode. Efforts will also be necessary for

fringe groups and populations that typically do not get involved because of apathy to the environment and the attitude that nothing will ever change or that their effort will not make a difference in any watershed outcome, so why even try. There is a diversity in the watershed that needs to be researched and trended for a better understanding to approach the I&E strategies. Overall the messages delivered must be consistent and persistent. Delivering the messages and information in a repetitive manner is the most effective way for people to assimilate the message and information. Additionally, it must be kept simple and relevant to assure buy in by the population and they need to see results. The target groups need to see implementation efforts taking place or interest will quickly wane. It is important to involve the KRWPOA as they have and will continue to be a driving force for efforts in the Watershed. Research on as many available options to discover the best method for each target group will be an important part of this implementation process. For the Watershed project, the following methods will be used to convey the issues and rehabilitation strategies for the Watershed, as detailed in Table 7.1.

- Development and use of a project logo in media communication
- Watershed signage agricultural demonstration sites in the Watershed
- Articles in local newspapers, newsletters, MSUE and USDA Service Center newsletters
- Develop a web presence using a web page, Facebook and other acceptable digital media to convey messages.
- Displays for fairs, carnivals, festivals and community events, and meetings
- Presentations at public, county, township, village, and city meetings
- Develop and distribute brochures and flyers
- Watershed tours of problem sites and implementation sites
- Watershed wide surveys
- Water quality and biological stream monitoring by volunteers
- Storm Drain marking (not stenciling)
- Involve FFA, high schools, community college and universities in I&E component of the project
- Comparison plots of BMPs on farmers' properties
- Comparison of agricultural BMPs on agricultural sites
- Development of new information and implementation strategies on vegetated buffer strips to get more involvement from farmers
- Encourage participation in Farm*A*Syst, Home*A*Syst, CREP, CCRP, and EQIP, WHIP
- Develop and do presentations on the Kawkawlin WMP to as many diverse groups as possible, including the business sector
- Individual contact with attendees at information presentations
- Offer incentive payments to agricultural producers for short or variable-term enrollment in programs
- Organize Clean Sweep for farm chemicals and pesticides, as well as HHW collection
- Trash cleanup in drains, streams and river reaches
- Riparian tree planting at designated sites

- Information on value of wetlands to preserve base flow and other benefits
- Develop knowledge on improved drain maintenance
- Involvement in MSU Turf Grass Program
- Host seminars by Turf Grass Program

Implementation of Information and Education Strategy

The implementation of the I&E strategy will follow the three leg stool strategy. If one is missing the program will become very unsteady. The program will follow these three steps: 1) understanding; 2) education; and 3) action item.

Understanding

By educating focus groups and target audiences the I&E strategy will increase their understanding about what a watershed is and by providing examples to these groups about NPS pollution. The public will be made to understand they live in a watershed and that their day-to-day behaviors and activities can affect water quality. Participants in activities and the passive public will learn about the impacts land use activities have on water quality in the watershed. They will also learn about general approaches to minimize these impacts.

Understanding and recognition will also be raised through signage, logos, brochures, and articles in the popular media

Education

The public will have many opportunities for more in-depth education through a variety of opportunities, including public meetings, presentations, displays, tours, electronic/digital media, MLive.com articles and print media articles. Many of these opportunities, especially the e-media modes will allow the public to comment and respond to the findings of the project. Open meetings, Web presence, and individual contacts will provide further opportunity for the public to offer their opinions and concerns.

Action Item

Actions occur when audiences change behaviors and develop programs and events that influence and improve water quality. Such actions include participation in Adopt-A-Stream or Drain, and Stream Monitoring Volunteers, implementation of BMPs to improve water quality, and making informed decisions on land use planning. Continue cooperative agricultural BMP design work with Bay County Farm Bureau group.

Taking ownership for the solutions of water quality concerns provides a framework for sustainability and ensures the continuation of the project's objectives. Sustainability for the I&E efforts will be developed throughout the project since the protection of the Watershed will be a long-term endeavor. The schedule for implementation is included in Table 7.2

Table 7.2 – Information and Education Implementation

Information and Education Activity	Years 1 to 3 Implementation Start (2011)	Years 4 to 6 Implementation Start (2014)	Estimated Costs	Evaluation Techniques
Articles in local newspapers, MSUE newsletters, USDA Service Center newsletters, Township newsletters	Develop a Campaign Theme or “hook” and then develop thematic templates for seasonal articles for spring, summer, fall and winter newsletters. Create 3 sets of articles. Send out to local government, agencies and media	Update and send out articles annually	\$1,250 to develop, \$450 to update	Surveys, responses, evaluations, comments
CNMP development	Complete 5 plans with landowner in each priority sub watershed	Complete 10 plans in each targeted subwatersheds	\$5,000 each	Compliance reporting in plan
Community/watershed surveys	Conduct 4 targeted surveys in year 1 and report results, Follow up survey in year 3 and report results.	Use previous survey results to develop new survey and report results	\$3,500 for first survey, \$2,000 for subsequent surveys	Survey report approval, determine behavioral changes. Document increase of participation in surveys, Document quantitative data gleaned.
Demonstration comparison plots of BMPs on farmers’ properties	Establish 4 plots and secure sustainable funding	Establish 2 permanent research plots	\$1,300/plot	Cooperation and assistance from landowners
Develop and distribute brochures and flyers	Develop templates for brochures and flyers - print 1,000 of each	Update brochures and flyers every 3 years and print 100 every year	\$1,500 to develop, \$2,500 for printing	Number of flyers distributed to target audiences
Direct mailings	3/year to all watershed parcels in Bay County	3/year every year to 1,500 households	\$750/year	Number of mailings to target audiences. Place website address for reference and determine how many visits to web site
Displays for Bay and Midland County fairs, Bay County events such as Pig Gig, Tall Ships, River Roar, Fishing Tournaments and other events, meetings, and Local Conservation District Open House	Develop traveling display. Set up annually at Conservation District Open House and other events. Set up at KRWPOA annual meeting and Area Festivals such as Corn Festival, Potato Festival, Pickle Fest, Walleye and Fishing Tournaments, Bay County Fair, Midland County Fair, Saginaw County Fair	Update information and create new display. Set up annually at Conservation District Open House Set up at KRWPOA annual meeting and Area Festivals such as Corn Festival, Potato Festival, Pickle Fest, Walleye and Fishing	\$2,200 to create first, \$1,800 to create second	Use surveys at display to document visitors and gather additional information

Table 7.2 – Information and Education Implementation

Information and Education Activity	Years 1 to 3 Implementation Start (2011)	Years 4 to 6 Implementation Start (2014)	Estimated Costs	Evaluation Techniques
Encourage participation in Farm*A*Syst program, MAEAP	5 Farm*A*Systs evaluations per year	1 Farm*A*Syst per year	Varies	
Encourage participation in CREP, OCRP, EQIP, WHIP	10 new participants	5 new participants in each year of funding	Varies	
Home*A*Syst, presentations at county, township, and city meetings	Offer program 2 times			
Involvement in MSU or Scott's Turf Grass Program	Implement to provide once per year			
Manure, GPS soil sampling				
Offer incentive payments for long-term enrollment in programs				
One-on-one discussions with Representatives and Congressmen	1 meeting with each state and federal representative	1 meeting with each state and federal representative		Increase in funding or change in legislation
Organize Clean Sweep for farm chemicals and pesticides, Household Hazardous Waste (HHW) collection	Offer HHW twice per year for 3 years	Develop sustainable program		Volume or weight of chemicals collected
Workshops and presentations at county, township, and city meetings	1 workshop to present WMP, annual presentation at board and council meetings	Set schedule for 1 presentation/yr on each entity's agenda for board and council meetings	\$500/workshop \$150/presentation	Exit survey
Presentations to interest groups	2 presentations/yr	2 presentations/year, set in Conservation District schedule	\$150 per presentation	Follow-up questionnaires to participants
Presentations to present CREP, CRP and BMP information to agricultural producers	2 presentations/yr	2 presentations/year, set in Conservation District schedule	\$150 per presentation	Follow-up questionnaires to participants
Presentation to County Farm Bureau per year on BMP effectiveness and new BMPs	1 per year	Continue 1 per year	\$130	Evaluation after program
Develop Education for hobby farmers and small livestock holdings	Develop mailing list, mail 2x/yr for 3 yrs; Hold 2 hobby / domestic livestock manure mgmt programs	Develop new program based on information from the first 3 years or new data from watershed monitoring	\$100 for mailing list / \$1,500 for education programs	# of mailings, # of participants, program evaluations

Table 7.2 – Information and Education Implementation

Information and Education Activity	Years 1 to 3 Implementation Start (2011)	Years 4 to 6 Implementation Start (2014)	Estimated Costs	Evaluation Techniques
Public meetings	Conduct 1 public meeting for WMP per year	Schedule 1 public meeting every other year for WMP status update	\$50 per meeting	Exit survey
Septic and well maintenance brochures	Develop and distribute 500; develop Maintenance folder to store information and records on OSDS	Update and distribute 300/year	\$5,000 to develop, print and distribute. \$500 to update, print and distribute	Increased response to brochures from year to year
Storm water education	1 event/yr	15 events	\$250/event	Participation, comments
Trash cleanup, riparian tree planting	2 events/year	1 event/year	\$1,500/event	Effective use of prisons and youth groups for volunteers
Sponsor Contest to Area High Schools to do a Watershed Page for Kawkawlin Watershed	1 contest per year	1 contest per year	Award \$500 to winning school's scholarship fund	The content of new web page for Kawkawlin
Use logo in communications about the I&E project	Use logo on letterhead, clothing and on all published articles about the watershed	Create 4 watershed boundary signs and 1 banner	\$500 for clothing, \$750 for signs and banner	Record number of clothing articles sold, comments on survey of increased watershed awareness and recognition of logo
Volunteer water quality monitoring	Secure funding to begin implementing program	Establish sustainable programs to conduct monitoring on a regular cycle	\$20,000/yr	Data accepted in MiCorp and MiSWMM
Volunteer Stream Monitoring	Implement volunteer training to hold one monitoring event at 3 sites per year	Continue annual monitoring	\$750 per year	Data collected from monitoring, amount of volunteers per year, # of volunteers trained per year.
Watershed tours of problem sites	Develop program of annual tours with a goal of the first tour in yr. 3	Schedule tour in NRCS or SBRC&D annual calendar of events	\$125/each	Follow-up questionnaires to participants

Potential Watershed Partnerships

There are many organizations and associations active in the Kawkawlin Watershed, these groups are already involved and it is to the benefit of this plan to keep many of these groups engaged in this project. The stakeholders group for the Kawkawlin has had many of these groups, agencies and organizations involved since the start of this planning process and actually some for decades. They have come forth and provided input and ideas for the betterment of the watershed. The following is a list of potential partners:

Bay County Drain Commissioner

The Bay County Drain Commissioner and staff have played an instrumental role in moving this planning project forward and will be a considerable force in the implementation phase of this project. Administrative staff have managed the grant funding, written grants and will be taking lead roles in facilitating the implementation phase. The Drain Commissioners presence at all meetings and his cooperative efforts will be crucial during the long term implementation phase. He brings people together and serves as the facilitator for meetings and project momentum.

Saginaw Bay RC&D

This agency has been instrumental in the planning process. Personnel have chaired the Corridor Assessment committee, completed the agricultural survey and been a great resource of experience and ideas for this project. They have provided administrative support, and clerical assistance. We anticipate they will take an active role in the implementation process and provide assistance with the I&E strategies.

Bay County Health Department

This agency has been focused on the pathogen, E.coli problem on the Kawkawlin River and surrounding areas. Staff has developed a much needed database and geographical information system (GIS) to help address the issue of failing on-site treatment systems and identifying areas of concern in the Main Branch. They will be providing permits for future on-site treatment systems. With the acquisition of a recent grant they will be doing more monitoring to address water quality concerns and beach closings. They will be a source of material for I&E for the pathogen issues.

Department of Natural Resources and Environment

Staff from the regional Saginaw Bay office are very helpful and will assist with connection to the Lansing office for materials for the I&E strategies. They also have resources to provide some the education in the form of experts and educational programs and activities for all ages. They are also a great resource of ideas from other WMPs that have been implemented and had successful I&E programs.

USDA – Natural Resources Conservation Service – Bay County

The NRCS provides technical service and assistance to landowners and ag operators in planning, implementation, and maintenance of conservation practices on the land. They have, or can access, a considerable amount of information to explain services they provide, and the function of conservation BMPs and practices.

Farm Bureau

The Farm Bureau is the state's largest general farm organization and the Bay County group is an active group of farmers. Overall the state group has over 200,000 family members in 67 county Farm Bureaus. The purpose of this organization is to represent, protect, and facilitate the business, social, economic and educational interests of its membership. It publishes the *Michigan Farm News*, the only statewide farm newspaper. Articles related to water quality of surface water can be published in this forum. Additionally they can be an educational resource for programs.

Michigan Groundwater Stewardship Program

The mission of the MDA Groundwater Stewardship Program is to provide information and assessment tools for pesticide and nitrogen fertilizer users which help them identify risks to groundwater associated with their pesticide and nitrogen fertilizer use practices. It also coordinates local, state, and federal resources to help individuals reduce the risks associated with pesticide and nitrogen fertilizer use practices. The Program administers several programs, including Home*A*Syst, Farm*A*Syst, and Crop*A*Syst.

Michigan Department of Agriculture

The CREP is administered by the MDA, along with many other activities under the GSP. MDA has been assisting the Conservation Districts in contacting residents about signing up for the program. Brochures, posters, and literature about the program are readily available and widely distributed throughout the Kawkawlin watershed. The CREP program is an important component of improving water quality in the Kawkawlin watershed.

Michigan State University Extension

MSUE is the educational arm of MSU research. Part of its responsibility as a Land Grant University is to deliver research-based educational programming to every county in the State. The mission at MSUE-Bay County is to help people improve their lives through an educational process that applies knowledge to critical needs, issues, and opportunities. It offers educational information, materials and newsletters via various media (print, workshops, and internet) to residents of Bay, Saginaw and Midland Counties.

Local Newspapers

Local newspapers are excellent resources to use to distribute information to the public. Newspaper articles, MLive.com articles, brochures, and inserts can be used to promote the project and education the citizens. Some local newspapers include the *Bay City Times*, *Saginaw News*, *Midland Daily News*, and MLive.com.

Local Businesses & DDAs

Local businesses and DDAs can assist financially to support and sponsor programs.

Landowners/Farmers

Local farmers, once awareness has increased and they have been educated as to the concerns of the Kawkawlin watershed, can move into action and make individual efforts to improve water quality.

Local schools, Community College, Universities and Bay Arenac ISD

Local schools, community colleges, Universities and the ISDs provide a forum at which messages can be communicated to children and adults.

Wildlife, Fishing, Environmental, Conservation and Sporting Groups

The Stakeholders and consultant identified many outdoor groups that have a presence in the Watershed and are influential in delivering messages to target audiences.

Organizations such as the Saginaw Bay Walleye group, Bass Fishermen, Pheasants Forever, National Turkey Federation, Ducks Unlimited, Whitetails Forever, Little Forks Conservancy and The Nature Conservancy have been identified as potential partners.

EVALUATION MEASURES

Evaluating each activity on its effectiveness in getting the message to the audience is beneficial in determining the continuation or modification of that activity. An evaluation summary will be completed for every I&E strategy and reviewed annually. Indicators of success will be developed throughout the planning and implementation process to help determine whether the objectives are being achieved.

The I&E Strategy will be periodically reviewed by the Stakeholders Committee and adjustments to the strategy will be made as necessary. Questions that will be answered at the meetings include:

- Are the planned activities being implemented according to the schedule?
- Should the schedule be changed?
- Are the priorities the same as when the plan was first written?
- Is additional support needed?
- Are additional action items needed?
- Do some action items need to be modified or eliminated?
- Are the resources sufficient to carry out the tasks presented?
- Are all of the target audiences being reached?
- Are there new target audiences to reach or identified?
- Are there new communication or educational media that can be used?
- What feedback has been received, and how does it affect the I&E strategy program?
- How do the BMP implementation activities correspond to the I&E strategy?
- What changes need to be made to improve the strategy?